Reservoir Hydrilla Management Group

Update on Hydrilla in Swift Creek Reservoir March, 2019

Chesterfield County Utilities
George Hayes, P.E., Director of Utilities
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Tonight's Presentation

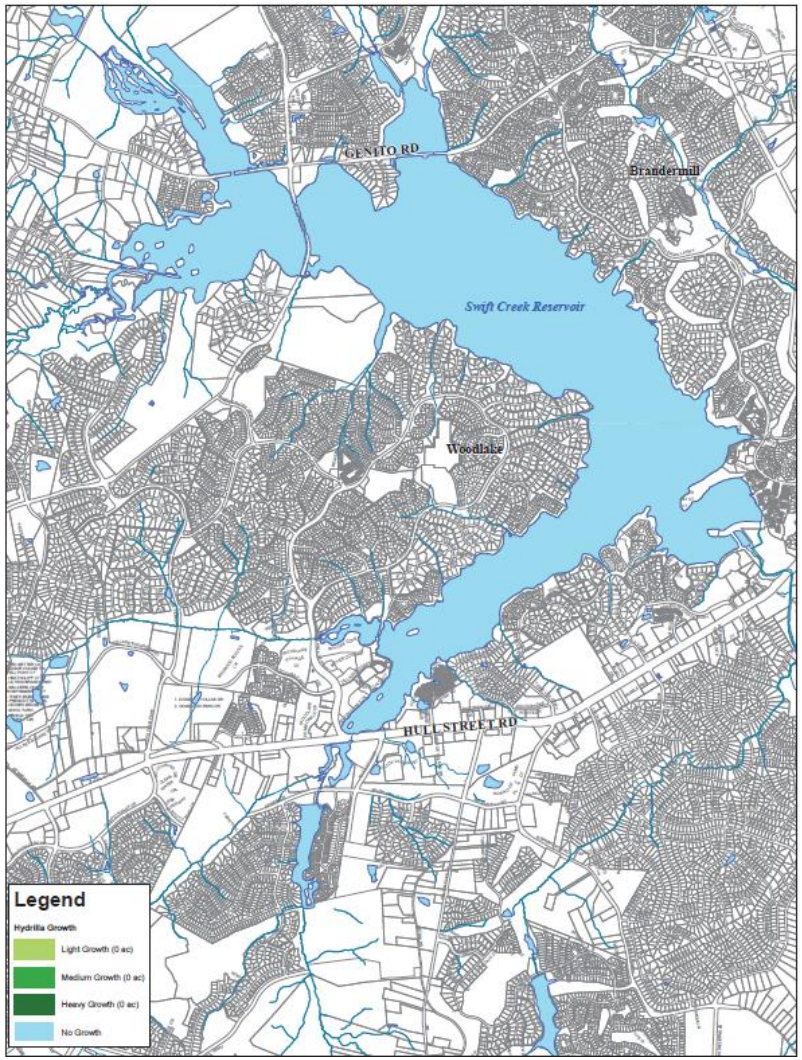
- History Swift Creek and Hydrilla
- Current Status Reports of Hydrilla
- Review of Hydrilla Growth (2009-2018)
- Model Update for 2019
- Secondary Hydrilla Control Committee Update
- Q&A on Hydrilla Control

Hydrilla and The Swift Creek Reservoir

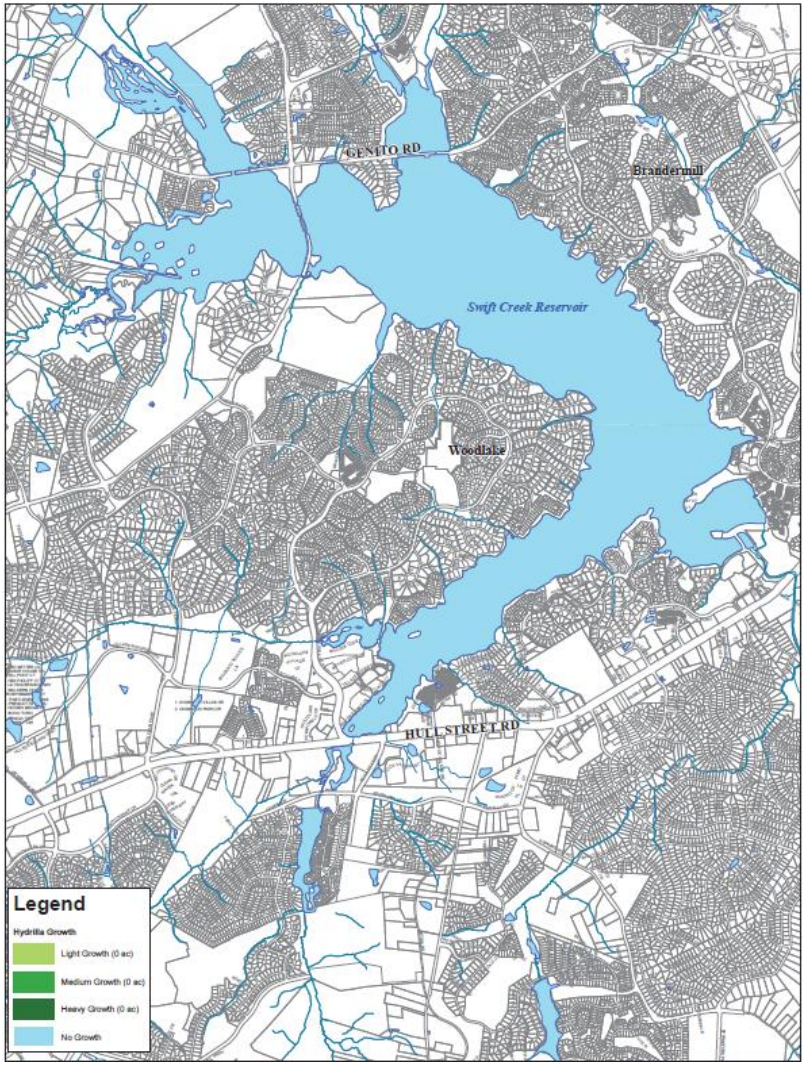
- History of the Swift Creek Reservoir
- Hydrilla General Information
- Hydrilla in the Swift Creek Reservoir

2017-2018 Hydrilla Monitoring and Control Program Comparison

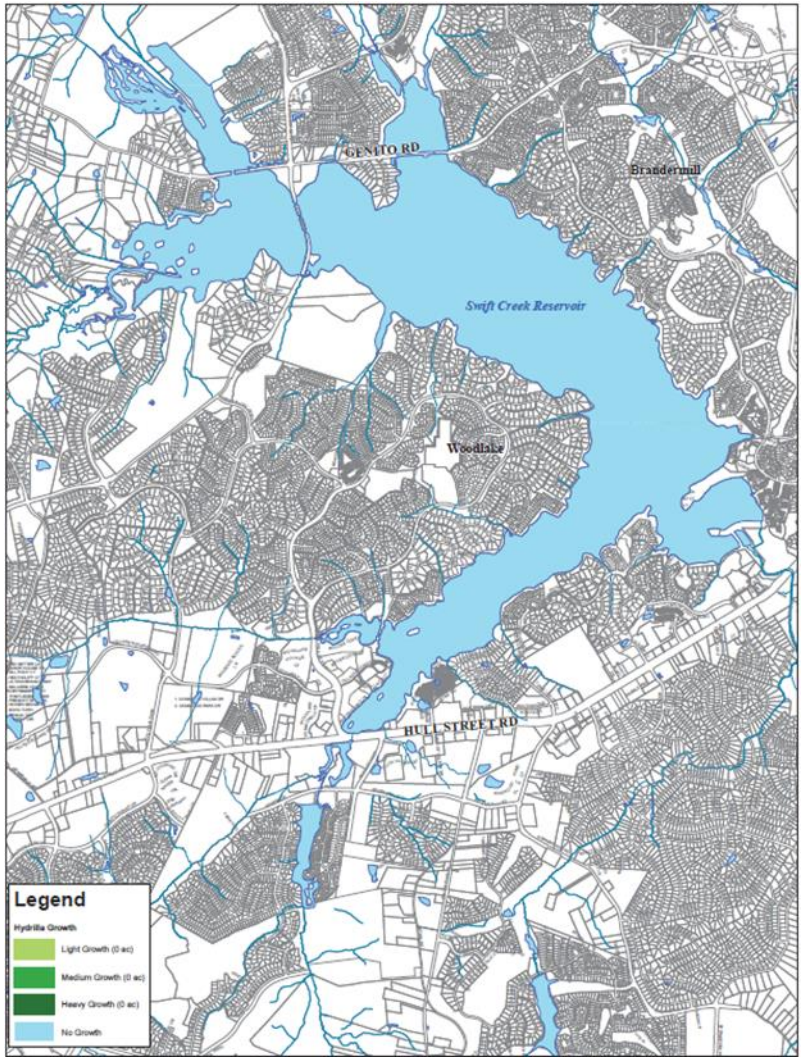
April 2017 — 0 acres



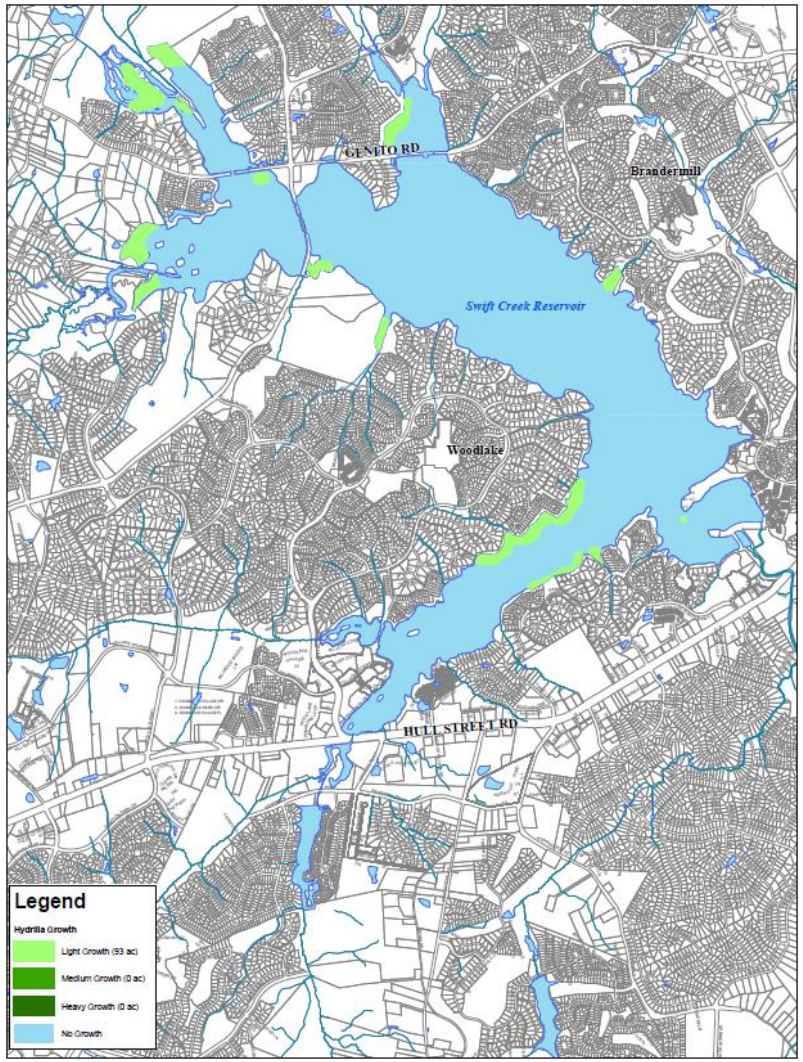
April 2018 — 0 acres



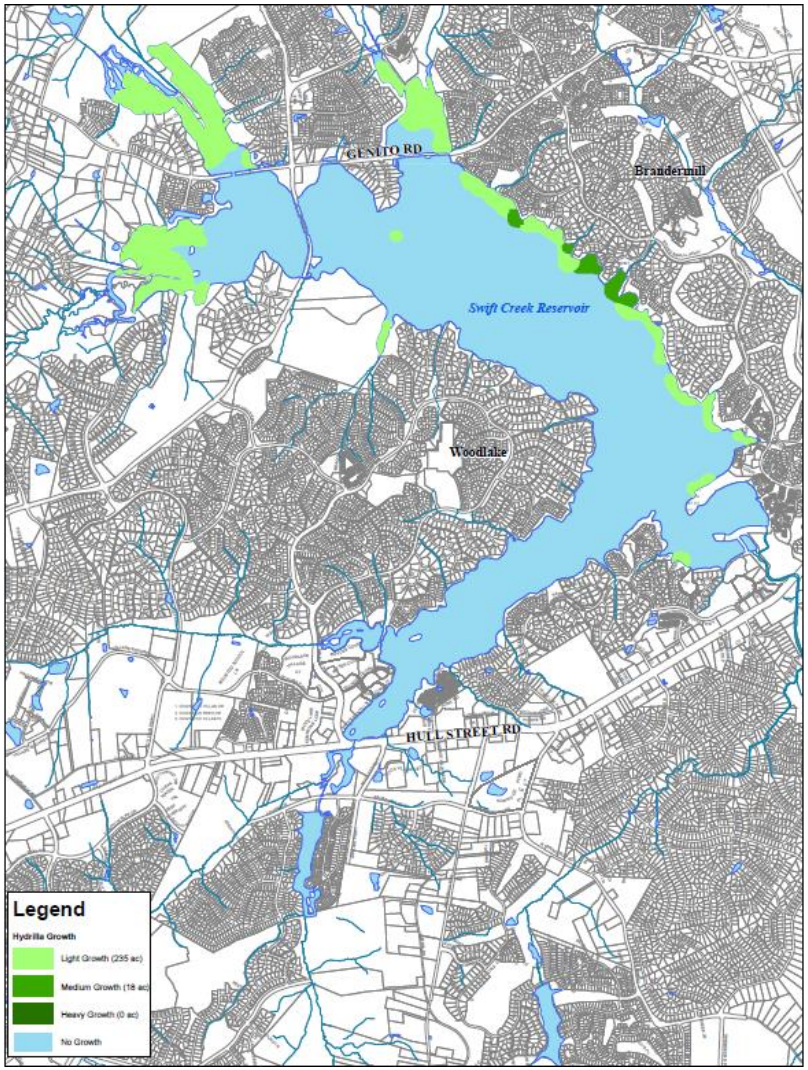
May 2017 — 0 acres



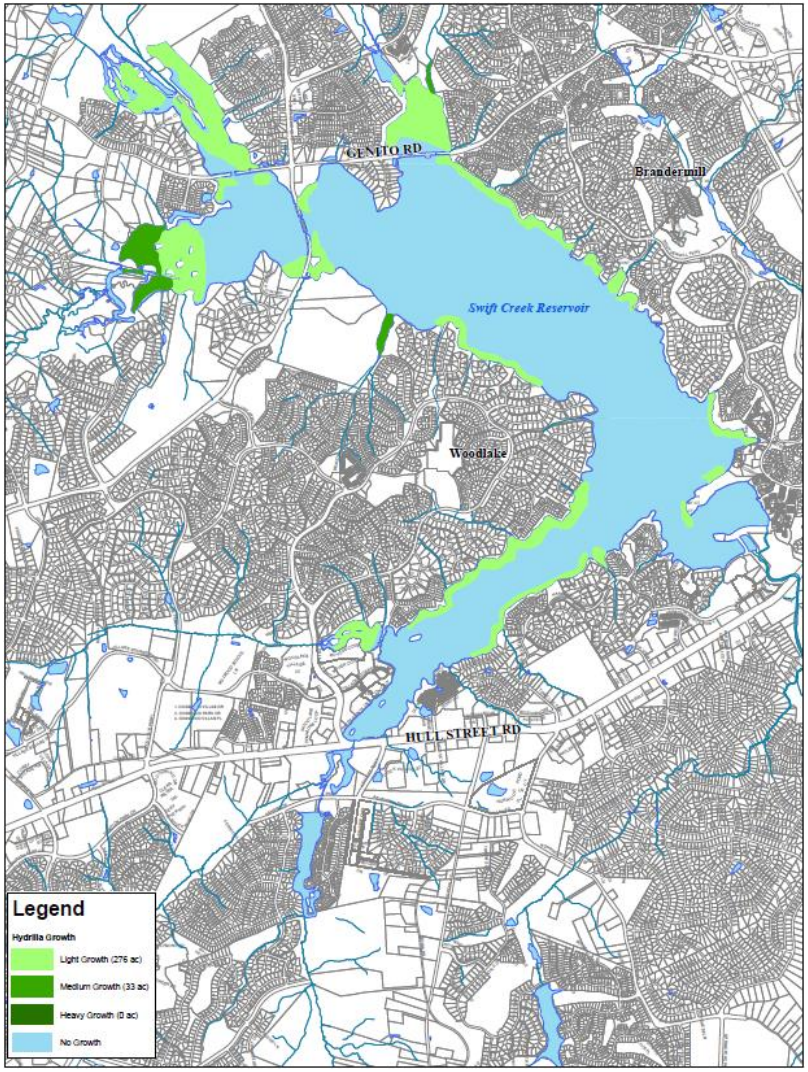
May 2018 — 93 acres



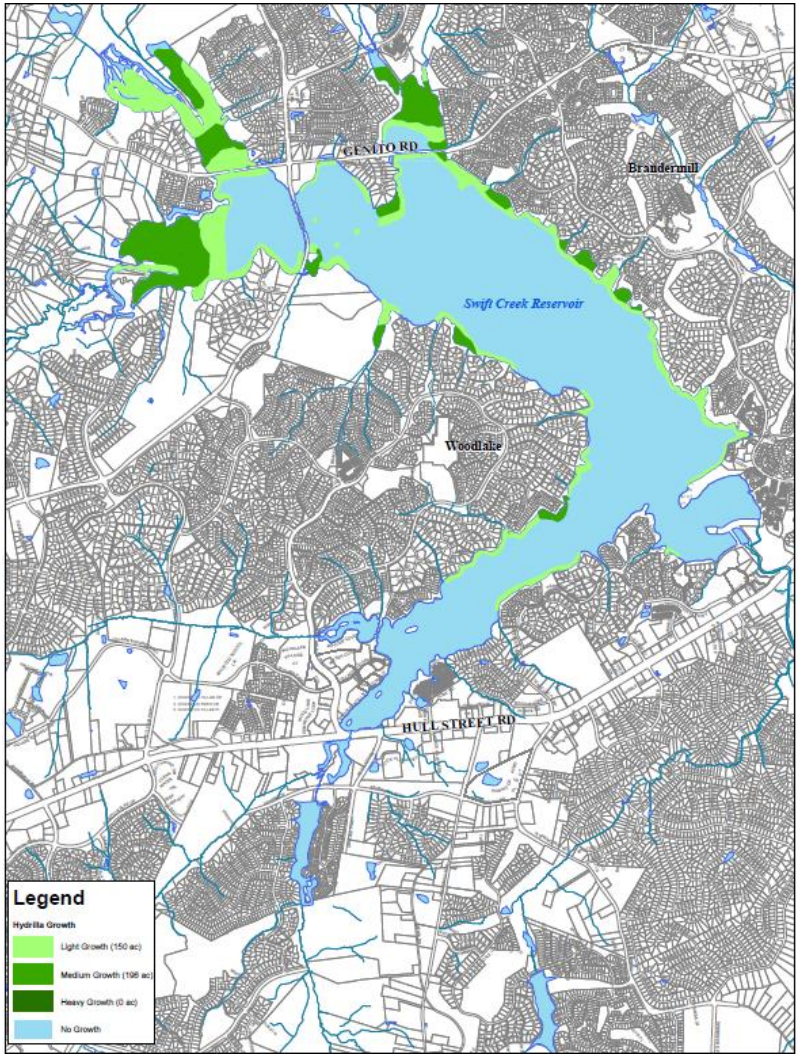
June 2017 — 253 acres



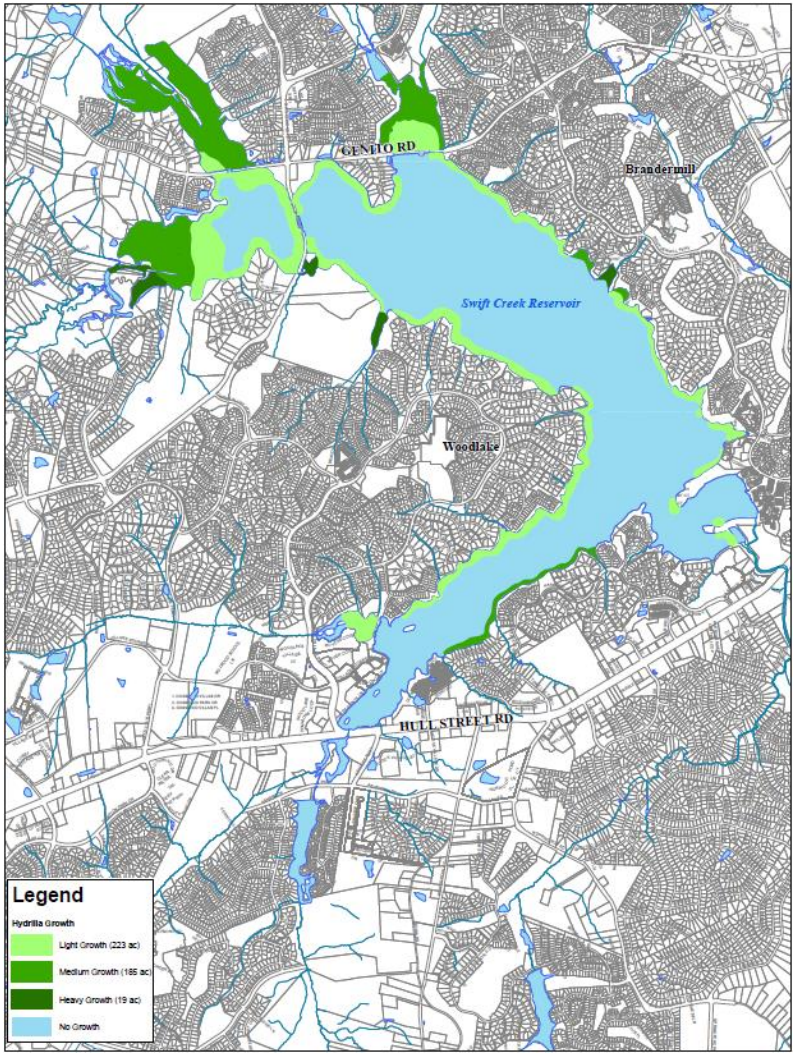
June 2018 — 276 acres



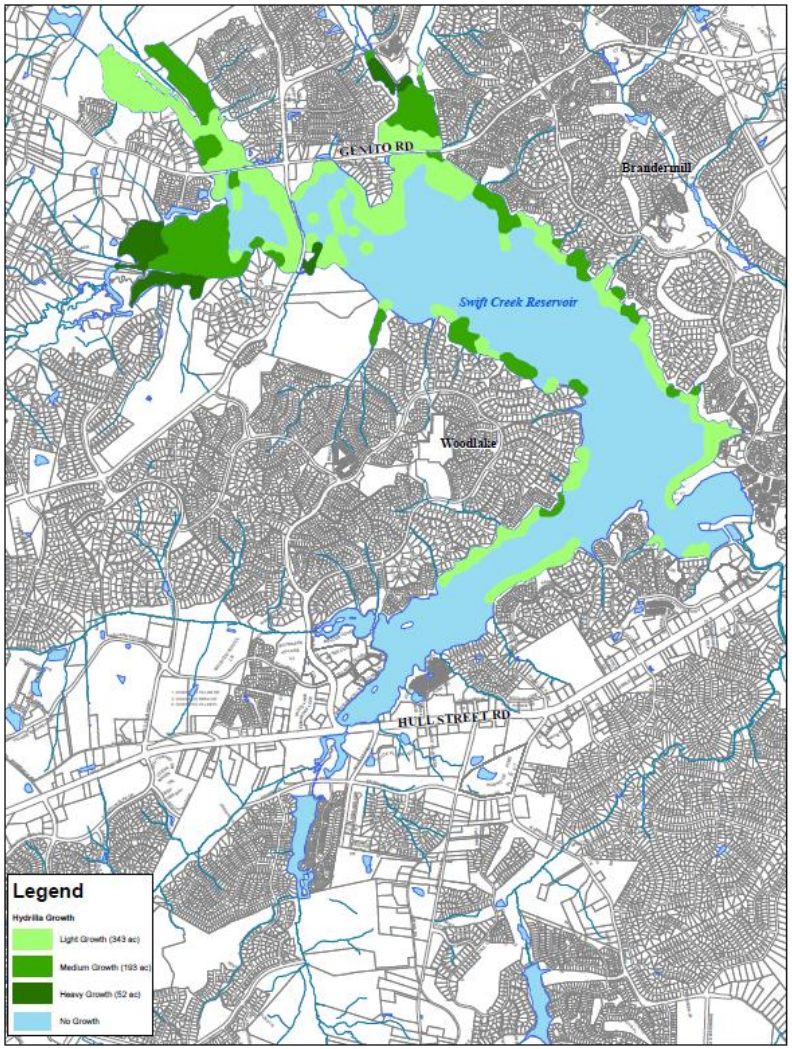
July 2017 — 346 acres



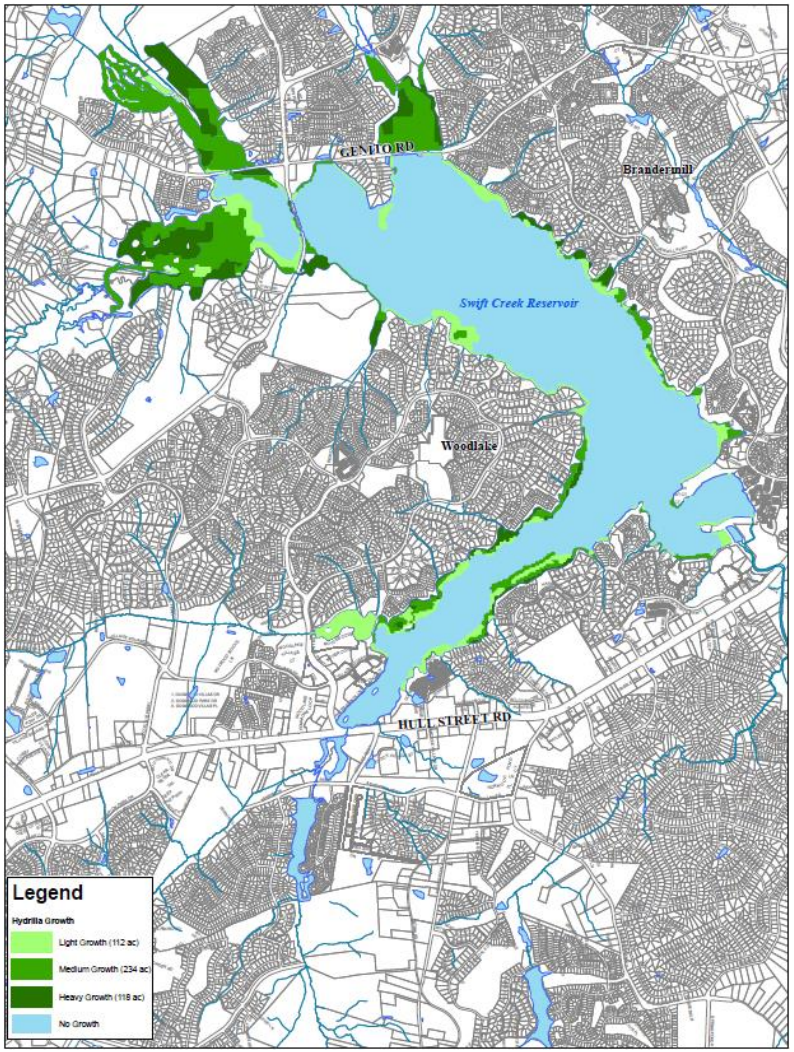
July 2018 — 427 acres



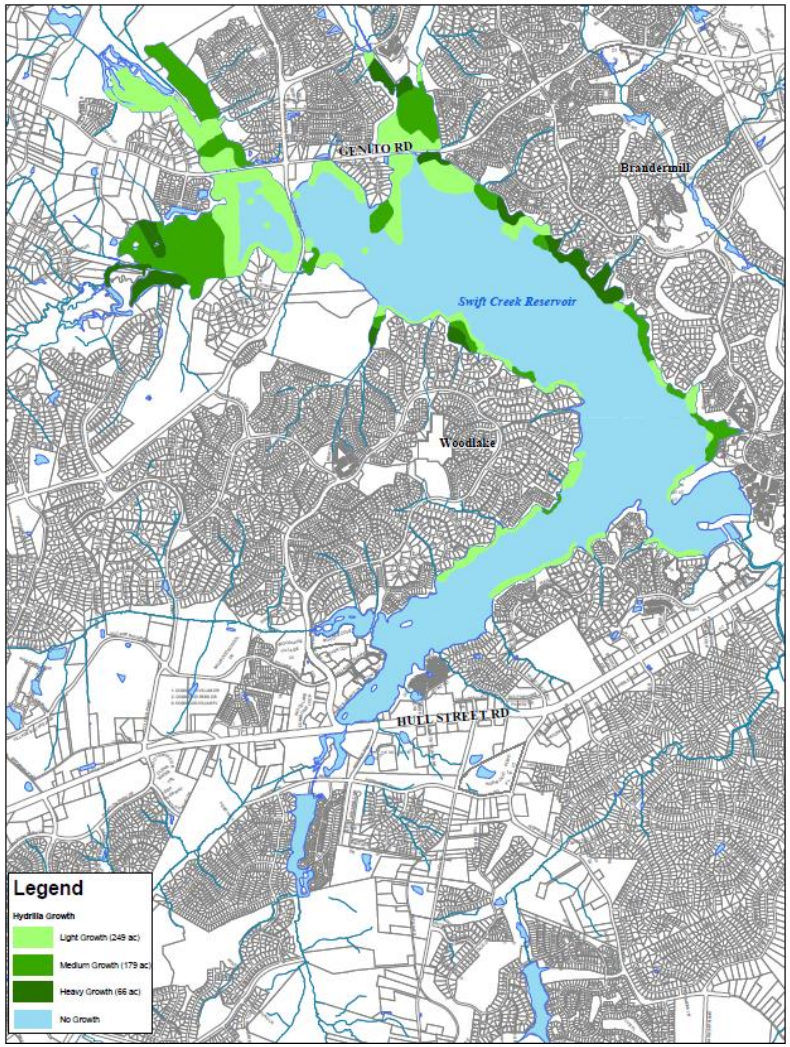
August 2017 — 588 acres



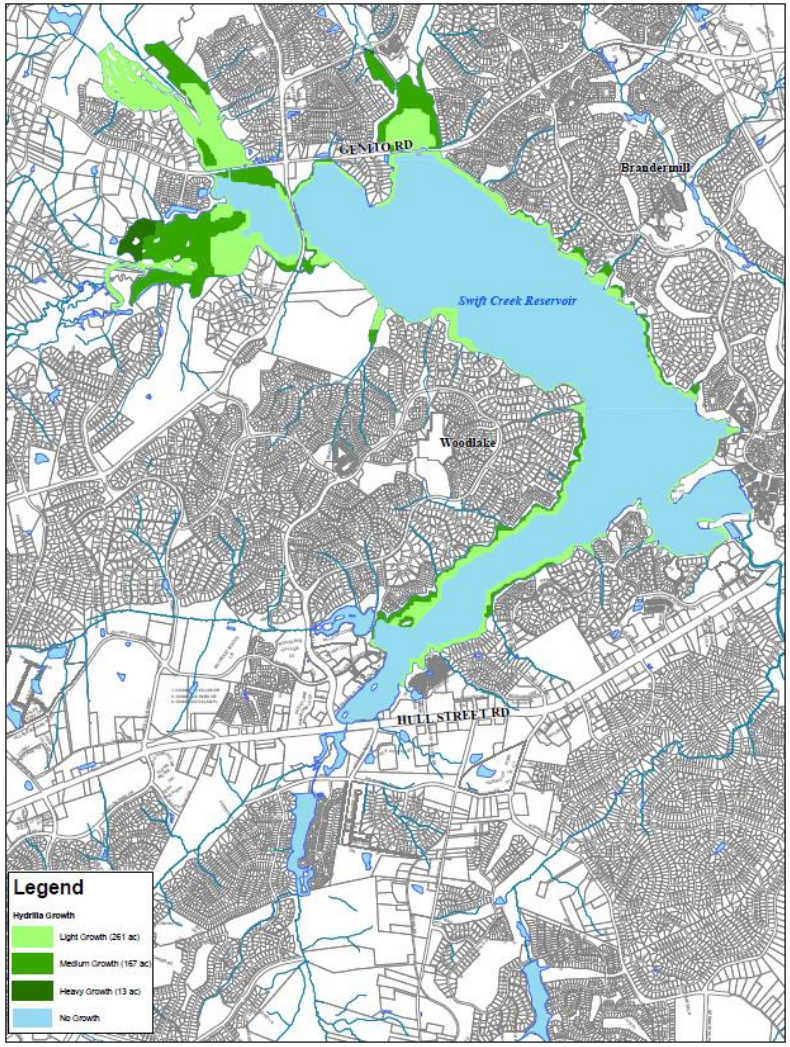
August 2018 — 464 acres



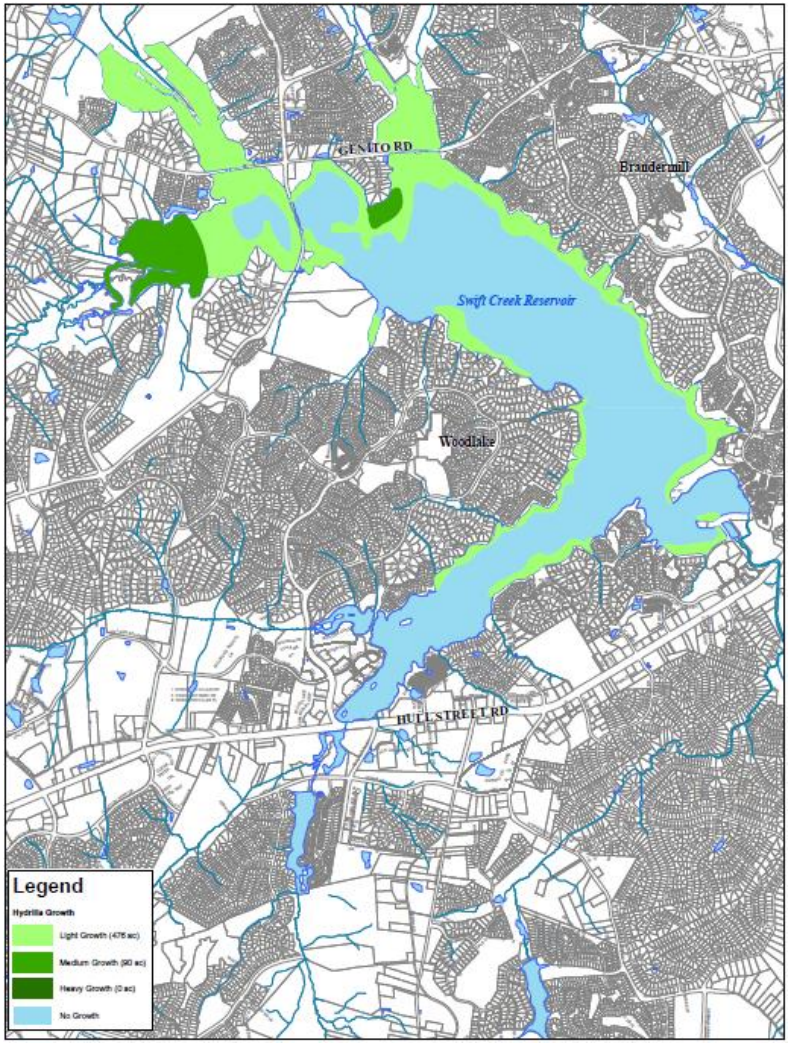
September 2017 — 494 acres



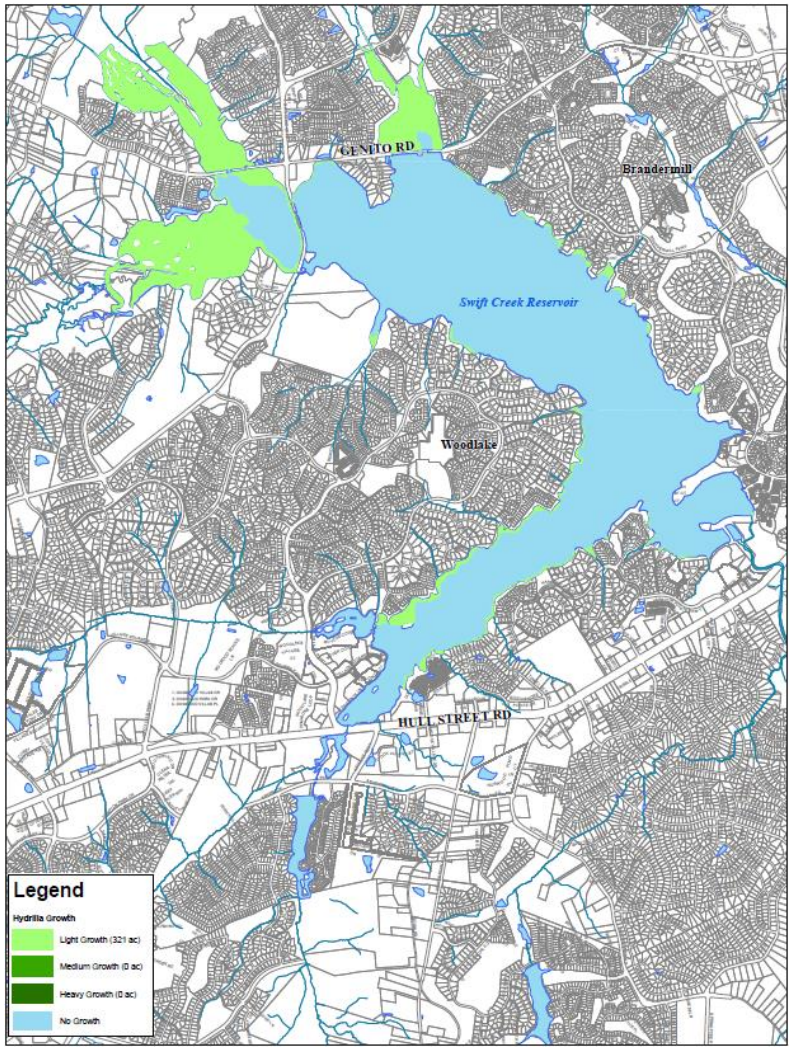
September 2018 — 441 acres



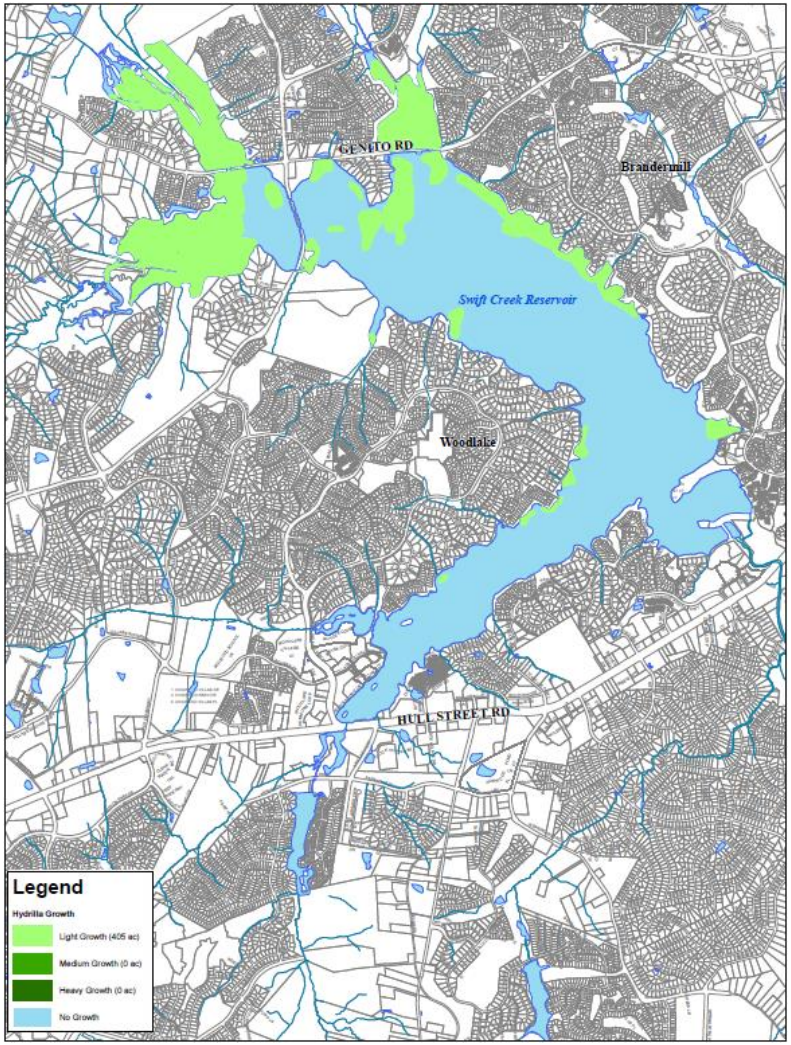
October 2017 — 566 acres



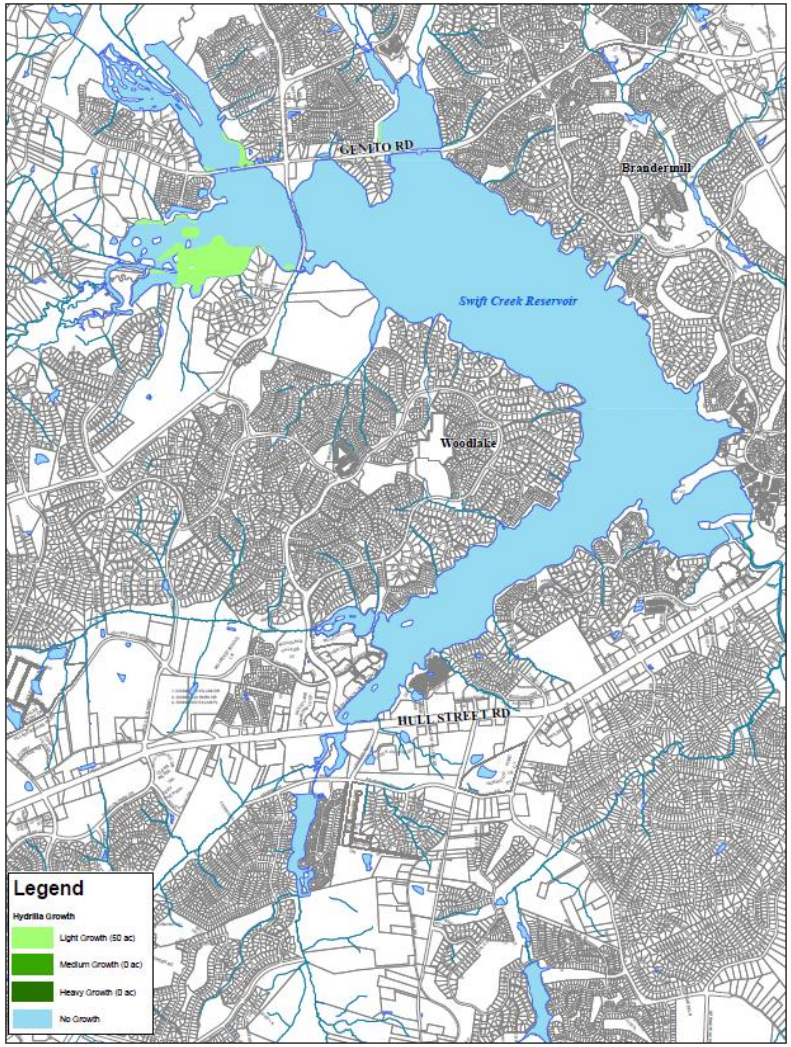
October 2018 — 321 acres



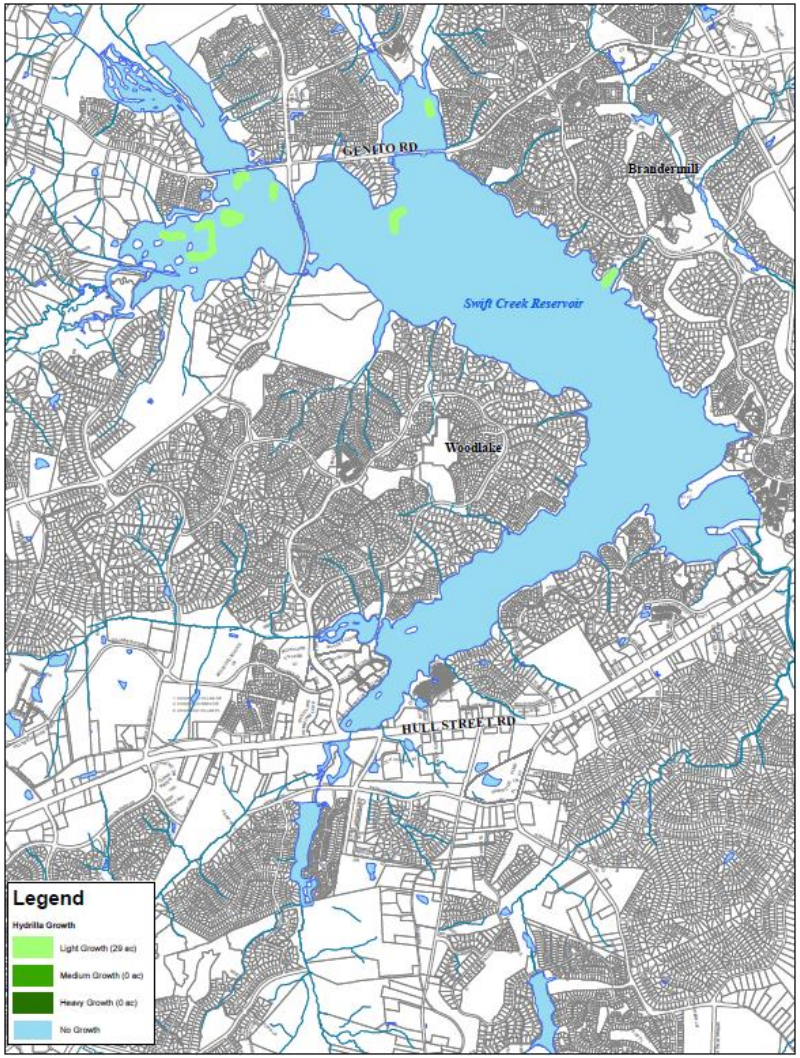
November 2017 — 405 acres



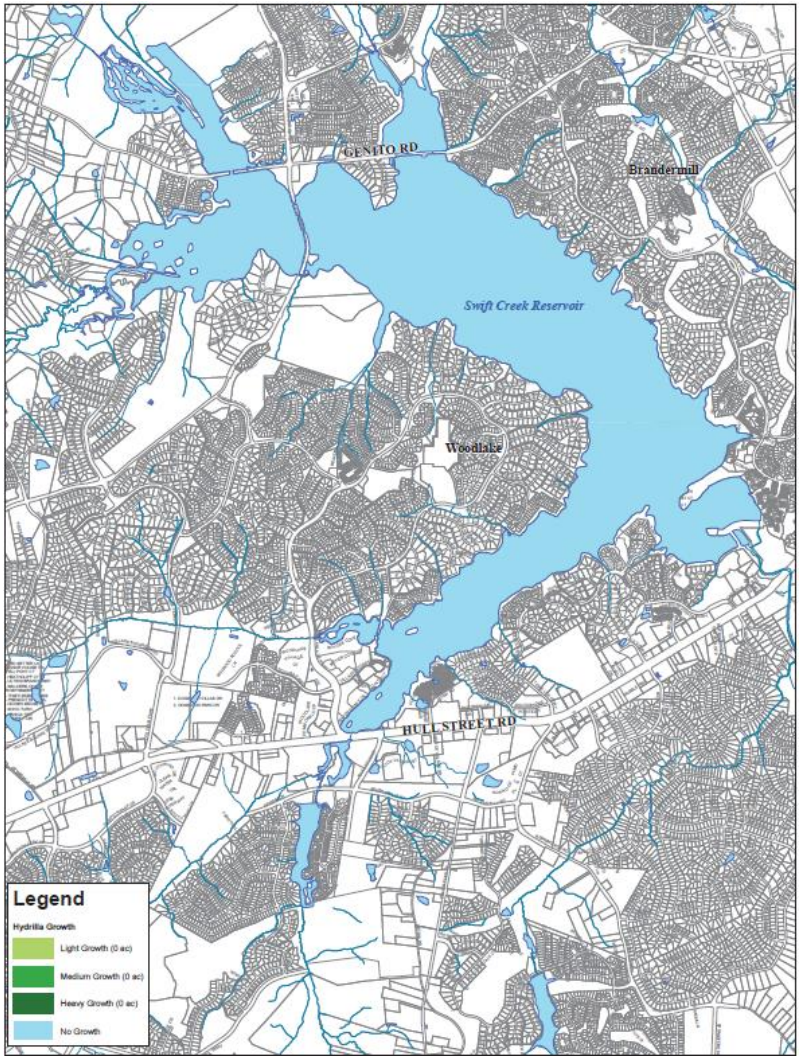
November 2018 — 50 acres



December 2017 — 29 acres

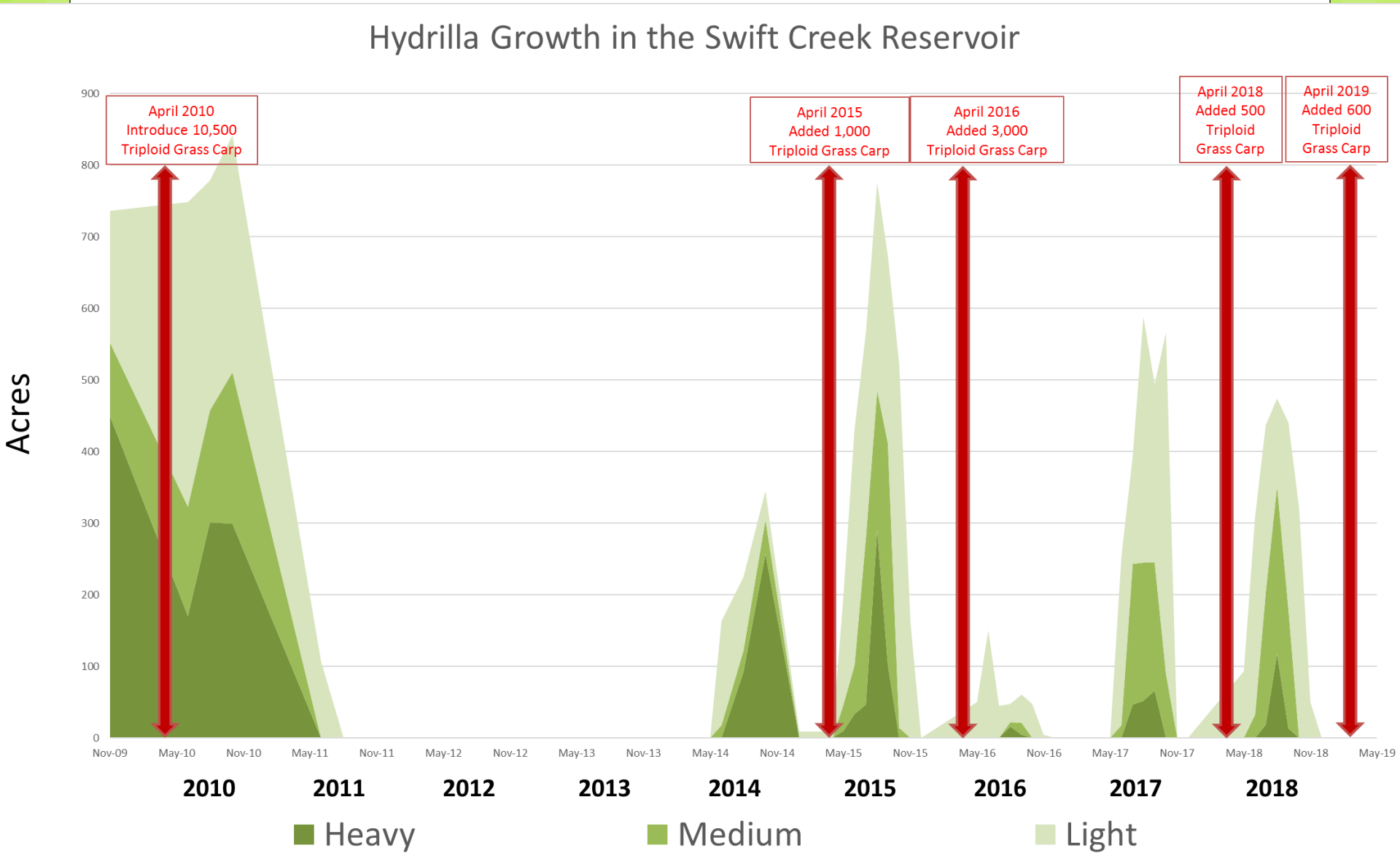


December 2018 — 0 acres



2009-2018

Hydrilla Growth in the Swift Creek Reservoir


Hydrilla Growth in the Swift Creek Reservoir
Acres
900
800
700
600
500
400
300
200
100
0
April 2010
Introduce 10,500
Triploid Grass Carp
April 2015
Added 1,000
Triploid Grass Carp
April 2016
Added 3,000
Triploid Grass Carp
April 2018
Added 500
Triploid
Grass Carp
April 2019
Added 600
Triploid
Grass Carp
Nov-09
May-10
Nov-10
May-11
Nov-11
May-12
Nov-12
May-13
Nov-13
May-14
Nov-14
May-15
Nov-15
May-16
Nov-16
May-17
Nov-17
May-18
Nov-18
May-19
2010
2011
2012
2013
2014
2015
2016
2017
2018
Heavy
Medium
Light

Primary Hydrilla Control for 2019

Primary Hydrilla Control

- Based on the carp and hydrilla biomass model, stocking rates and the impact of carp addition to the reservoir has been evaluated.
- Recommending an application be submitted to Department of Game and Inland Fisheries for the addition of 600 Triploid Grass in April.
- An April stocking will support the goal of introducing multiple classes of carp.
- Chesterfield County will continue to monitor hydrilla growth, documenting peak growth in 2019.

Primary Hydrilla Control

- Multiple classes of fish in the reservoir will mimic the natural reproductive cycle of non-sterile carp to minimize a population crash.
- Subsequent additions of triploid grass carp will be based on level of control from previous years and peak growth, an emphasis on multiple classes will be followed.
- Carp additions in 2020 and beyond will be based on maintaining a balanced approach for maintaining sufficient vegetation(10 to 25 percent coverage)to promote a healthy reservoir and to prevent a collapse in the carp population.

Primary Hydrilla Control

- The current model suggests additions of 600 triploid grass carp is expected for 2020 and 2021, depending on vegetative cover.

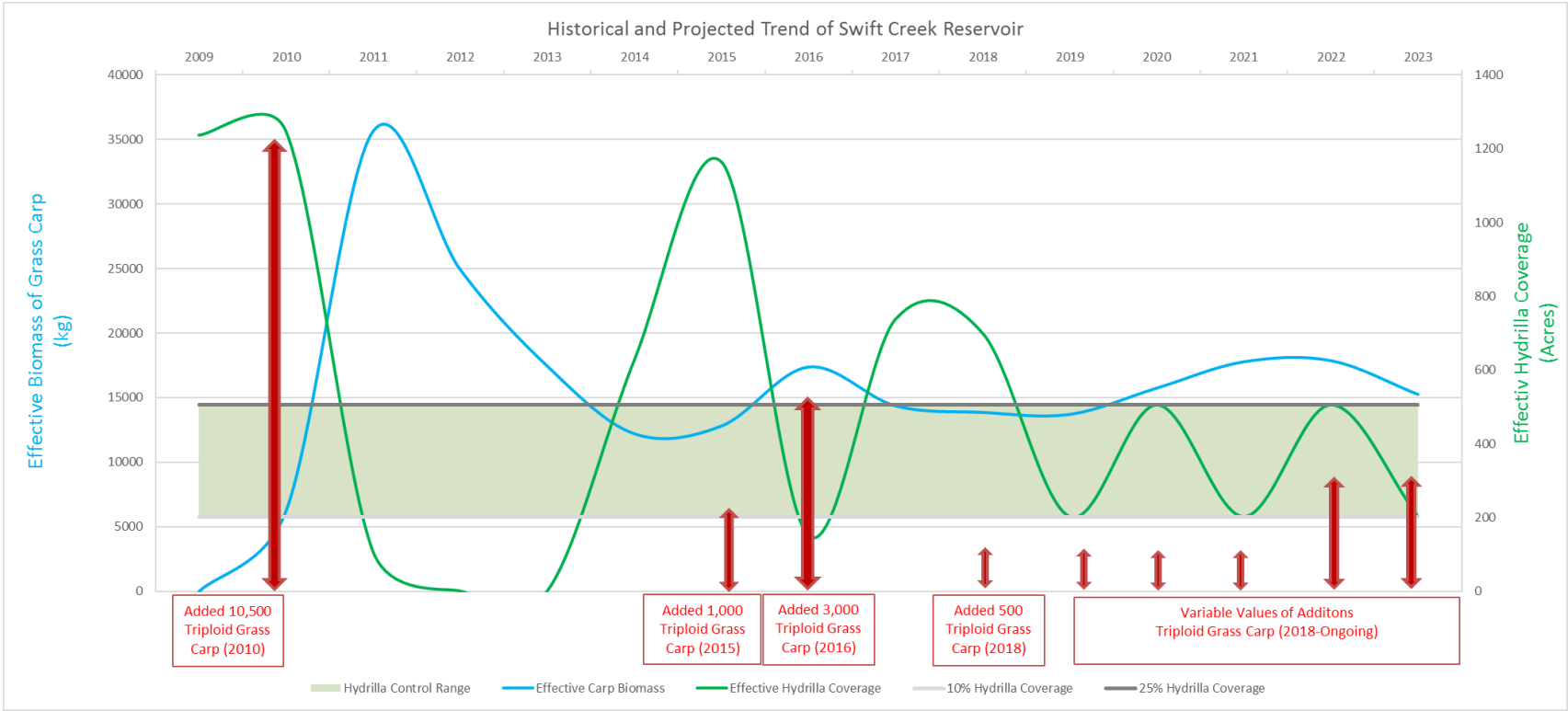
- Utilities will continue to monitor aquatic vegetation and algae. Dr. Wagner will assist utilities in continued assessment of the carp/biomass balance through use of the model (developed in 2010 and revised in 2018/2019 to be reflective of actual response conditions) and he will provide his expertise.

Primary Hydrilla Control

- Utilities will consult with Virginia Game and Inland Fisheries to investigate the potential to perform a more robust fishery survey to accurately reflect the size of the different classes of carp in the reservoir.
- Dr. Wagner and Utilities will continue to evaluate and improve the model and overall program as more information is available.
- Remember biological systems are difficult to control due to the many natural variables that affect them.

Primary Hydrilla Control

- Interactive Chart



Secondary Hydrilla Control

Secondary Hydrilla Control

- Last year Utilities consulted with the RHMG leadership and the RHMG leadership approved the purchased of pilot equipment with the available secondary control funds to test cutting and disposal of localized hydrilla.
- Utilities has tested the equipment to establish protocol's for management of the secondary localized control program.
- The secondary control subcommittee met and discussed various options and presented those options to the RHMG. Based on the cost, the most effective means was determined to be the use of the equipment similar to the pilot equipment tested.

Secondary Hydrilla Control

- At this point in time the separate HOAs will need to determine if they want to work collaboratively through one vendor or independently. Please reach out to your HOA to express you interest in moving forward.
- Chesterfield County Utilities will work with the HOAs to ensure adequate precautions are taken.
- Chesterfield County Utilities previously obtained permission from the State Virginia Marine Resources Commission (VMRC) allowing travel lanes to be cut in the aquatic vegetation of SCR. Other cutting is not allowed w/o VMRC permit and would be in violation of VA law.


For more information, visit
Chesterfield Utilities online:
chesterfield.gov/utilities